

STATE OF CALIFORNIA
Budget Change Proposal - Cover Sheet
DF-46 (REV 08/15)

Fiscal Year 2016-17	Business Unit 3600	Department Fish and Wildlife	Priority No. 2
Budget Request Name 3600-005-BCP-DP-2016-GB		Program 2595-HUNTING FISHING, AND PUBLIC USE 2615-SPILL PREVENTION AND RESPONSE	Subprogram 2595019-COMMERCIAL FISHERIES MANAGEMENT 2595028-SPORT FISHING 2615037-RESTORATION AND REMEDIATION

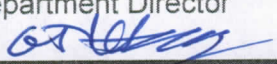
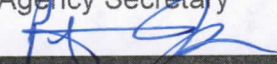
Budget Request Description
Marine Resources Management and Assessment

Budget Request Summary

The Department of Fish and Wildlife (Department) is requesting an increase in spending authority of \$443,000 per year from the Marine Invasive Species Control Fund (MISCF) for three years to improve resource assessment and increase the monitoring of critical marine species, which will result in significant short and long-term biological, economic, and social benefits to the people of California.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date
For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance. <input type="checkbox"/> FSR <input type="checkbox"/> SPR Project No. Date:		

If proposal affects another department, does other department concur with proposal? ☐ Yes ☒ No
Attach comments of affected department, signed and dated by the department director or designee.

Prepared By	Date	Reviewed By	Date
Department Director 	Date 12/18/15	Agency Secretary 	Date 12/18/15

Department of Finance Use Only

Additional Review: ☐ Capital Outlay ☐ ITCU ☐ FSCU ☐ OSAE ☐ CALSTARS ☐ Dept. of Technology

BCP Type: ☐ Policy ☐ Workload Budget per Government Code 13308.05

PPBA Original Signed by Amanda Martin	Date submitted to the Legislature 1-8-16
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BCP Fiscal Detail Sheet

BCP Title: Marine Resources Management and Assessment

DP Name: 3600-005-BCP-DP-2016-GB

Budget Request Summary

	FY16					
	CY	BY	BY+1	BY+2	BY+3	BY+4
Operating Expenses and Equipment						
5340 - Consulting and Professional Services - External	0	328	328	328	328	328
5342 - Departmental Services	0	115	115	115	115	115
Total Operating Expenses and Equipment	\$0	\$443	\$443	\$443	\$443	\$443
Total Budget Request	\$0	\$443	\$443	\$443	\$443	\$443

Fund Summary

Fund Source - State Operations						
0212 - Marine Invasive Species Control Fund	0	443	443	443	443	443
Total State Operations Expenditures	\$0	\$443	\$443	\$443	\$443	\$443
Total All Funds	\$0	\$443	\$443	\$443	\$443	\$443

Program Summary

Program Funding						
2615037 - Restoration and Remediation	0	443	443	443	443	443
Total All Programs	\$0	\$443	\$443	\$443	\$443	\$443

Analysis of Problem

A. Budget Request Summary

The Department of Fish and Wildlife (Department) is requesting an increase in spending authority of \$443,000 per year from the Marine Invasive Species Control Fund (MISCF) for three years to improve resource assessment and increase the monitoring of critical marine species, which will result in significant short and long-term biological, economic, and social benefits to the people of California.

B. Background/History

Improve Monitoring for Non-Native Aquatic Species

The Legislature passed the Ballast Water Management Act (AB 703) in response to the threat and introduction of non-native aquatic species (NAS) from the ballast of ships into the marine waters of the state. This legislation required the Department to conduct biological surveys to determine the location and geographic range of introduced species populating the state's marine and estuarine waters. A report detailing the results of that study was completed and submitted to the Legislature in 2002. Subsequently, the Marine Invasive Species Act, AB 433 (Nation) Chapter 491, Statutes of 2003 extended the term of the Marine Invasive Species Program (MISP) and widened the scope of the MISP to include coast-wide traffic by surveying outer coast habitats. The Act also directed the Department to continue monitoring for the introduction of species non-native to California.

The Coastal Ecosystem Protection Act (SB 497) extended the program indefinitely. The Department is required to annually provide the public with a list of non-native species, and submit a report to the Legislature every three years.

For a number of reasons, MISP depends on specialized professional taxonomists (scientists that classify organisms according to their physical or cellular characteristics). Non-native aquatic species have worldwide origins, so their identification requires more than local knowledge of flora and fauna. Moreover, many marine organisms remain undiscovered or undescribed in many parts of the world, making identification challenging. To assure accurate identification of organisms, the Department's Office of Spill Prevention and Response (OSPR) has contracted with laboratories dedicated to the science of marine invasions to accomplish the biological surveys.

Past OSPR surveys have sampled from bays and harbors distributed across the entire coast of California. However, to manage rising costs of monitoring, the Department has been forced to reduce the number of sites and bays sampled. For example, during the coast-wide survey of bays and harbors conducted in 2006, 101 sites in 20 ports and marinas were sampled. A similar survey conducted in 2011, was limited to 52 sites in 18 ports and marinas. In an effort to further reduce costs, but maintain a minimum search effort, the current monitoring proposal calls for sampling in only 10 ports and marinas, but this monitoring will be spread over the next four years.

Resource History (Dollars in thousands)

Program Budget	PY - 4	PY - 3	PY - 2	PY - 1	PY	CY
Authorized Expenditures	1,295	1,335	1,337	1,373	1018	1,018
Actual Expenditures	1,107	1,249	1,335	1,263	TBD	TBD
Revenues	N/A	N/A	N/A	N/A	N/A	N/A
Authorized Positions	4	4	4	4	4	4
Filled Positions	4	4	3.5	3.5	3.5	3.5
Vacancies	0	0	.5	.5	.5	.5

Analysis of Problem

Workload History

Workload Measures	PY - 4	PY - 3	PY - 2	PY - 1	PY	CY
Bays and Harbors Sampled	18	18	10	10	10	10

C. State Level Considerations

Improve Monitoring for Non-Native Aquatic Species

This proposal will have no known negative impacts on other state programs and is consistent with the Department's strategic plan and supports objectives in the plan as follows:

- Initiative 7: Expand Scientific Capacity: The Department will manage and control the impacts of prohibited/detrimental species on natural ecosystems in California. As well as encourage the advancement and use of rigorous scientific information to drive resource management planning and implementation.

The State Lands Commission (SLC) Marine Invasive Species Program reviewed the MISCF fund status and concluded that the balance supports this proposal. The SLC has voiced strong support for this proposal. Not providing the additional resources requested in this proposal would limit the Department's ability to detect new species introductions to California waters, and thus the potential for increased impacts to the environment, human health, and the state's economy as species spread and invasions go un-noticed and un-managed.

The California Aquatic Invasive Species Management Plan (CAISMP) developed by the San Francisco Estuary Project, lists funding of early detection and rapid response actions as one of its highest priorities. A major objective of the CAISMP is to develop and maintain programs that ensure the early detection of new aquatic invasive species (AIS) and the monitoring of existing AIS. The plan emphasizes that detection of non-native arrivals, before they become established, should be a priority for any AIS management effort.

D. Justification

Improve Monitoring for Non-Native Aquatic Species

(\$443,000 MISCF only)

The Department requests an increase in spending authority of \$443,000 per year from the MISCF for three years to improve efficiency in governing conservation and protection of natural resources by fully implementing the MLPA, improving resources assessment and increasing monitoring for the critical marine species. Non-native aquatic species increasingly threaten California's coastal habitats. Newly introduced species have few natural predators, which enable them to spread rapidly, altering natural ecosystems and habitats. They threaten native species and state fisheries, and can also impact infrastructure, the economy, and human health. We estimate that over 500 NAS are already present in California.

The arrival of marine debris from the 2011 Japan tsunami, highlighted by a 165 ton dock that washed ashore in Oregon, has further raised concern about the potential spread of non-native species to California. About two-thirds of the 90 species on the dock were not native, revealing a clear threat from foreign species. Recent reports of debris coming ashore in California and estimates of floating debris yet to make landfall indicate this likely will be a growing problem that must be monitored.

Since 2000, the Department has contracted with San Jose State University's Moss Landing Marine Labs (MLML) to do biological surveys of habitats in bays, harbors, marinas, and the open coast. Survey costs have increased dramatically during the past few years. The cost to collect and process one sample during the 2006 survey was \$2,058. The same type of sample collected in 2011 cost \$3,370, an increase of 64%. However, external contract funding has not increased since FY 2003/04, so the Department has reduced the number of sites sampled, decrease sampling frequency, and

Analysis of Problem

reduced the number of replicate samples. As monitoring costs have risen without a commensurate increase in funding, the Department is now unable to adequately accomplish the monitoring goals set forth in state law. This has significantly diminished the program's ability to detect new invasions, and to track the spread of existing non-native species.

Additionally, the original budget did not include money for San Francisco Bay sampling. A non-Department study of the bay had been completed before the outset of the program, and the MISPP utilized those existing data. In the subsequent 11 years, the Department has only had resources sufficient to conduct two surveys of San Francisco Bay. It is critical that these surveys continue frequently, as our research has positively reconfirmed that San Francisco Bay is the most invaded estuary on the West Coast and plays a pivotal role in marine invasions throughout the rest of the coast by providing an entry point from which many species continue to spread.

To date, surveys to detect new invaders have been infrequent. Coast-wide surveys have been performed at intervals that are considered too long to adequately provide early detection of new introductions. As a result, the probability of detecting new invaders may often be low, especially considering seasonal and annual variation in abundance that is common for marine organisms.

E. Outcomes and Accountability

Improve Monitoring of Non-Native Aquatic Species

The geographic scope of non-native species monitoring will be expanded by sampling additional ports and marinas that would not otherwise be sampled. Data from biological surveys will be collected following current protocols. Results of sampling at additional sites will be reported annually, but discovery of new non-native species invasion will be immediately reported, to initiate rapid response. Current protocols for sample collection will be followed.

Projected Outcomes

Workload Measure	CY	BY	BY+1	BY+2	BY+3	BY+4
Number of additional bays sampled	0	4	4	4	N/A	N/A
Number of additional sites sampled	0	20	20	20	N/A	N/A
Number of additional samples	0	100	100	100	N/A	N/A

F. Analysis of All Feasible Alternatives

Alternative 1: Approve as proposed, an increase in spending authority of \$443,000 each year from the Marine Invasive Species Control Fund (MISCF) for three years.

Advantage: It will also make the Department more effective and responsive to our regional partnerships, resulting in increased credibility and recognition of the Department as a leader in marine resource management. Furthermore, with the increase in authority for the Marine Invasive Species Control Fund, the Department can continue to conduct research and management activities that contribute to critical resource management and assessment, as well as multi-partner endeavors.

Disadvantage: While the funding will provide necessary resources to conduct research and management activities that contribute to critical detection of invasive marine species, it does not provide a long-term funding plan for an ongoing program.

Analysis of Problem

Alternative 2: \$443,000 General Fund for three years to monitor non-native aquatic species.

Advantage: Marine Invasive Species Control Fund resources will be conserved.

Disadvantage: General Fund resources would be used.

Alternative 3: \$222,000 Marine Invasive Species Control Fund only for six years.

Advantage: General Fund resources would be saved.

Disadvantage: Mandates from the Ballast Water Management Act and the Coastal Ecosystem Protection Act will go unmet for many years.

Alternative 4: Redirect existing Marine Region resources.

Advantage: Resources from the General fund and Marine Invasive Species Control Fund would be conserved.

Disadvantage: Professional taxonomists with years of specialized training are needed to reliably identify marine organisms and such expertise is not available in the Department, nor could they be hired as employees as the State does not utilize that classification. Furthermore, genetic analysis is utilized to accurately confirm the identity of organisms, requiring a state-of-the art molecular laboratory, which would require substantial start-up costs. Also required are laboratory infrastructure and trained personnel (including SCUBA divers), field sampling resources, and sorting and identification facilities, none of which are in place at the Department. Additionally, the Department currently has only three scientific staff, which is inadequate to undertake the field and laboratory workload. This alternative would also exclude the opportunity to collaborate with Federal and academic experts in the science of marine biological invasions.

G. Implementation Plan

Implementation of this proposal would begin on July 1, 2016, and/or upon approval of the FY 2016-17 Budget.

H. Supplemental Information

None

I. Recommendation

The Department recommends Alternative 1. This provides the Department an increase in spending authority of \$443,000 each year from the MISCF for three years. These additional resources will contribute to the Department's mission by improving regulatory programs, expanding scientific capacity, and developing/enhancing partnerships. This will result in a direct benefit to the state as better data will enable sustainable resources management including the continued fishing opportunities and associated social economic benefits to the people of California. California is known worldwide for its fisheries and vibrant coastal communities. This proposal will help ensure the sustainable management of California's natural marine heritage.